ABSTRACT OF THE DISCLOSURE

A rate and delivery time multiplexing for bandwidth optimization algorithm has an allocation portion and a transrating portion. The allocation

5   portion determines how many bits are available for each group of pictures in each program stream that is to be inserted into an outgoing MPEG Transport Stream (MTS). Based upon the allocated bits the transrating portion, when necessary, further compresses the program streams either in the compressed domain when rate reduction is minimal or in the pixel domain when rate

10   reduction is significant. The result is the ability to transmit more video program streams over a given fixed bandwidth pipe for a given level of acceptable picture degradation.